

SUMMARY REPORT: INFANT AND YOUNG CHILD FEEDING AND HOME FORTIFICATION IN RURAL BANGLADESH – PERSPECTIVES FROM A FOCUSED ETHNOGRAPHIC STUDY

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1. BACKGROUND

1.1 Infant and Young Child Nutrition in Bangladesh

Bangladesh has been making impressive progress in reducing poverty and malnutrition (Food and Agriculture Organization of the United Nations [FAO] 2012), and is considered to be well on track to achieving the majority of the Millennium Development Goal (MDG) targets (National Institute of Population Research and Training [NIPORT] 2013) by 2015. However, the country's malnutrition rates remain among the highest in the world, especially among children. The 2011–2012 National Micronutrient Survey found that 32% of children between 6 and 59 months were stunted, 19% were wasted, and 30% were underweight (International Centre for Diarrhoeal Disease Research, Bangladesh [icddr,b] et al. 2013). Micronutrient deficiencies are also widespread: 33% of pre-school children suffer from anaemia, 20% from vitamin A deficiency, 10% from iron deficiency, 40% from iodine deficiency, and almost 50% from zinc deficiency. Although diversity of food intake has been improving in Bangladesh over the last decade (Bureau of Statistics 2010), the intake of key micronutrients remains well below the recommended amounts. The proportion of pre-school children meeting the recommended dietary allowance (RDA) of iron, zinc, and vitamin A is 3%–6%, 11%–38%, and 30%, respectively. The major share of these micronutrients is provided by poorly bio-available plant-sourced food. The National Micronutrient Survey showed another very interesting finding, highlighting the need for a large-scale intervention: Malnutrition is spread across regions and wealth quintiles (icddr,b et al. 2013).

One of the causes of anaemia is inadequate intake of dietary iron. The per capita availability of micronutrient-rich foods compared to requirements is very poor, and

segments of the population cannot meet requirements, especially in rural areas, due to lack of adequate access and purchasing power (icddr,b et al. 2013). While important interventions in large-scale salt iodisation and fortification of edible oil are under way and a supplementation program was providing high doses of vitamin A to children under 5 years old, meeting the micronutrient requirements of children 6–59 months old remains a challenge. The limited intake capacity of these young children makes it hard to ensure that adequate intake of nutrients, iron in particular, through complementary feeding, is achieved.

In addition to problems of access to micronutrient-rich foods, there are also problems related to infant and young child feeding (IYCF) practices that contribute to poor micronutrient status. While breastfeeding is almost universal, the median duration of exclusive breastfeeding is only 3.5 months (NIPORT 2013). Good quality semi-solid foods are often not introduced in a nutritionally optimal fashion. In fact, only 62% of children aged 6–8 months receive complementary foods (NIPORT 2013); the diet of 24- to 35-month-old children is also commonly deficient in essential nutrients (icddr,b et al. 2013). In view of the magnitude and multi-factoral causes of micronutrient deficiencies in the critical period (6–24 months), home fortification (HF) of complementary food with multi-nutrient powders (MNP) as part of the promotion of age-specific, home-based complementary feeding is an effective intervention to contribute to reduction in childhood anaemia and to improve the quality of infant diets.

1.2 The GAIN Infant and Young Child Nutrition Program in Bangladesh

The Global Alliance for Improved Nutrition's (GAIN) Infant and Young Child Nutrition (IYCN) program in Bangladesh aims to reduce malnutrition, specifically micronutrient deficiencies, and to improve nutritional status and optimum feeding practices among children 6–59 months of age. Since 2009, to address the critical first 1,000 days from conception to a child's second birthday, the program has supported improvement of IYCF practices, including exclusive breastfeeding, timely introduction of complementary feeding, and appropriate and effective use of HF with MNP added to home-made local foods for infants and young children.

The first phase of the program (2009–2013) established a partnership between GAIN, BRAC, and Renata Limited. Renata is a pharmaceutical company that manufactures, among other products, an MNP called *Pushtikona*, which is distributed and sold through its pharmacy network. In alignment with its partners, Renata has invested in the promotion of breastfeeding and complementary feeding, as well as doctor sensitisation. BRAC is a development organisation dedicated to alleviating poverty by empowering the poor and helping them bring about positive changes in their lives by creating opportunities for them. Since 2009, BRAC has implemented the community-based component of the GAIN-BRAC-Renata partnership by promoting appropriate complementary

feeding practices and HF with MNP (*Pushtikona*) among children under 5 across Bangladesh. BRAC's frontline community health workers play a critical role in promoting MNP with better feeding practices.

The second phase of the program (2013–2018) aims to further contribute to reduction in micronutrient deficiencies, specifically by reducing anaemia among targeted children by 10%. The program will place a strong emphasis on establishing a supportive environment for the promotion of optimum IYCF practices, including HF, to fill the nutrient gap. In particular, the program will strengthen the capacity of BRAC's frontline health workers to provide

program beneficiaries with information about optimum IYCF practices and HF, improve home contacts, and implement a comprehensive social and behaviour change communication (SBCC) campaign in 170 sub-districts of Bangladesh. The program includes design elements to address gender and social exclusion issues. It will also focus on the social environment for the promotion of IYCN as part of a broader continuum of care.

The program entails a multi-stage research agenda, including the 2014 focused ethnographic study (FES) described below.

Since 2009, GAIN's IYCN program has supported exclusive breastfeeding, timely introduction of complementary feeding, and appropriate and effective use of home fortification and micronutrient powder.

2. STUDY RATIONALE AND OBJECTIVES

2.1 Rationale

IYCF practices in Bangladesh have been the subject of substantial research, due in part to the fact that stunting in the first 2 years of life is a major public health problem in South Asia, and feeding practices play an important role in the aetiology of the problem (Black et al. 2013; Menon 2012). With the advent of the Alive and Thrive (A&T) project in Bangladesh, as well as the GAIN IYCN program, additional attention has been focused on IYCF issues, providing new information and insights. As part of the dual evaluation of the A&T and IYCN programs, qualitative studies and quantitative surveys were undertaken by the International Food Policy Research Institute (IFPRI) (IFPRI 2010, 2013a, 2013b, 2013c). These studies and surveys provide some indication of the level and patterns of knowledge related to IYCF practices, as well as to the uptake of HF through the BRAC network. Households that purchased MNP were a minority: 37% of household surveyed in the program area in 2013 claimed to have ever purchased MNP. However, this uptake was significantly increased in areas of geographical overlap with the A&T project, which had invested heavily in increasing awareness around exclusive breastfeeding during the first 6 months, followed by appropriate IYCF after the first 6 months. Within BRAC's mostly low-income, rural client base, finer distinctions in socio-economic status (SES) appear to be a factor limiting the volumes of MNP purchased (but not purchase per se), with households of relatively higher SES purchasing on average double (21.1 packets at last purchase) the amounts of relatively lower SES households. Visits from a

BRAC volunteer are also associated with the decision to purchase (households that bought MNP had been visited on average 22 days prior, whereas the interval for non-purchasers is more than twice as long, at 48 days) (IFPRI 2013a).

These findings suggest that while affordability may be an inhibiting factor, an important sub-set of households is nevertheless willing and capable of purchasing MNP. The findings are partly responsible for efforts under Phase 2 of the GAIN IYCN program to expand the cadre of BRAC volunteers skilled in the provision of advice and information on effective IYCF behaviours. By situating HF more firmly within the broader IYCF messaging provided during the visit of an appropriately trained BRAC volunteer, and by making these visits more regular, it may be possible to both expand HF and simultaneously increase the adoption of other effective IYCF behaviours.

Quantitative and qualitative data collected by IFPRI also provided several relevant investigative starting points concerning the motivators for MNP uptake, including the perceptions of improved intelligence, physical growth, and appetite (IFPRI 2013c). GAIN determined that in-depth, ethnographic research could supplement the IFPRI studies with a deeper understanding of these motivators and of the barriers to optimal IYCF behaviours. Findings are expected to inform the design of the SBCC activities of the IYCN program.

2.2 Study Objectives

The study collected qualitative and quantitative data about caregivers' strategies to provide their infants and young children with appropriate food and fortification for good health, growth, and nutrition. The study also aimed to enhance the understanding of cultural norms and beliefs

related to IYCF practices and HF. Analysis of the data resulted in a set of findings that can be used to inform the design of SBCC interventions that promote infant and young child nutrition in general and HF in particular.

3. STUDY DESIGN AND POPULATION

3.1 Focused Ethnographic Study

Focused ethnography for implementation research is a research approach that uses data collection methods taken from classic anthropological techniques (in-depth, open-ended interviewing and observations), cognitive mapping techniques (which have their origins in psychology and marketing), and the research tools that are specific to the topics under investigation. In its application to nutrition issues, these tools are drawn primarily from nutrition methods (e.g. 24-hour food recalls and food frequency measures) and sociological survey research tools.

The ‘Focused Ethnographic Study for Infant and Young Child Feeding’ was developed under the GAIN’s auspices. It is a research tool designed to obtain a picture in a specific environment (community, region, or country) with respect to defined sets of questions for which answers are needed by an agency, policy makers, program planners, or project implementation teams to make decisions about future actions regarding a nutrition or nutrition-related intervention. In contrast to approaches that constrain the answers to investigators’ predefined expectations, the FES, like all ethnography, uses procedures that permit investigators to discover the realities experienced by people in the environment being investigated by hearing directly what those people have to say. For focused ethnographic research to be both manageable and effective, the studies not only need an adequate, but non-constraining set of guiding questions, they also need a clear structure and an explicit theoretical foundation. The FES for IYCF is built on these basic requirements.

The FES for IYCF consists of a set of modules, each of which addresses one or more aspects of complementary

feeding behaviours and beliefs, ranging from information on where foods are obtained (and the economics of household food management) and how they are prepared, stored, and fed to information on social and cultural conditions, and beliefs and knowledge-related features that affect how infants and young children are fed and cared for. The theoretical foundation of the FES is the ‘cultural-ecological framework’, which identifies five basic components within which the determinants of infant and young child diets and behaviours can be placed. These five components are: the physical environment, the social environment, the social organisation, technology, and culture. The FES modules are constructed to include data on each of these components and to provide an opportunity to reveal the interactions among them.

Revealing the interactions among the five basic components is particularly important for understanding the motivations that are shaping and driving behaviours. For example, as we discuss below in the findings, the interpretation of behaviours related to the management of MNP requires attention to the inter-relationships between beliefs about culture (food preparation and storage), available technology (including lack of refrigeration), the social environment (reflected by the BRAC provision of separate bowls for infants and young children), and social organisation (economic resources), and the physical environment (access to markets). Without consideration of all of these elements, developing better, more actionable messages to address the problems in caregivers’ observable behaviours would be difficult.

The FES on IYCF is well suited to meeting the study’s objectives.

3.2 Selection of the Study Sites and Sampling Procedures

The research was conducted in two districts that were chosen to reflect different conditions and levels of knowledge about IYCF and HF. One site was the *upazilla* (sub-district) of Balaganj, in the district of Sylhet, where household exposure to mass media and the presence of the A&T project were thought to have improved knowledge and awareness about both IYCF and HF. Balaganj is also a district where Phase 1 activities of the GAIN IYCN program were considered well established. The second site comprised two *upazillas*—Borguna and Borguna Sadar—in the district of Borguna. Borguna is a district that BRAC (the GAIN IYCN program implementer) and icddr,b (the FES implementer) together identified as a ‘hard-to-reach’, more ‘media dark’ district, where the topography and distance from the capital create logistical challenges for the program, including less frequent contact between families and the BRAC *shastya shebika* (community health worker). Since the *shastya shebika* is both the supplier of MNP and the point of access for most IYCF information, it was reasoned that caregivers in this setting might be less informed about optimal IYCF than elsewhere, or might have different views about MNP.

A total of 67 interviews were conducted. Nineteen of these were key informant interviews, and another 48 (24 in each district) were caregiver interviews. In both Sylhet and Borguna, the research teams relied on BRAC field staff to identify caregiver interview candidates according to the sampling grid in **Table 1**. To ensure that the study

included a range of perspectives, the sample of individual respondents included users and non-users of MNP in roughly equal numbers, as well as a distribution of respondents across a three-band infants and young children age division: 6–12 months, 13–18 months, and 18–24 months.

Analysis of demographic data from the two sample sites indicates that respondents were largely, but not entirely, self-described housewives. Ninety percent were Muslim and 10% were Hindu. The majority (76%) were living in an extended, multi-generational family structure. The average nuclear family size was six members.

Based on proxies for SES, the Sylhet sample appears to be more prosperous than the Borguna sample. The Borguna respondents lived mainly in dwellings with mud floors (91%), and many of them (42%) stated that they had no access to electricity, whereas in Sylhet only 41% of respondents had mud floors and only 3% were living without electricity. Respondents from Borguna also appear to be more closely tied to an agricultural livelihood, with 33% respondents reporting that their husband worked in agriculture versus just 18% in Sylhet. These differences in the samples reflect observed differences between the districts, but it is also possible that some bias towards more prosperous households was at work in Sylhet (see Section 5.3, Study Limitations).

Table 1: Sampling Frame for Caregiver Interviews

Child age (months)	Borguna			Sylhet		
	6-12	13-18	18-24	6-12	13-18	18-24
MNP users (n)	6	3	3	3	5	3
Non-MNP users (n)	4	4	4	6	4	3

4. DATA COLLECTION AND ANALYSIS

4.1 Data Collection

Data collection was carried out by the principal investigator, the research officer, and research assistants. Both the key informant interviews and the caregiver-respondent interviews were recorded into audio-files for transcription and translation.

The principal instruments of data collection were two separate research protocols, one for the key informant interviews and one for the caregiver interviews. Each protocol was divided into modules focused on individual tasks or topics. Each module contained both an explanation addressed to the interviewer and a detailed script for eliciting discussion around the module theme. For caregivers, these topics were: the socio-demographic

profile of the respondent; caregiving actions that can be taken for infants and young children; the types of problems faced by parents with infants and young children and solutions for these problems; perceptions of health, growth, and development; strategies to support child health; and vitamins and HF. It is a characteristic feature of the FES method that the core topic (in this case HF) is introduced only at the end, after the other modules have been used to establish the context. Similarly, within the HF module itself, the subject of MNP was deliberately introduced only after the open-ended interviewing technique allowed informants to volunteer the beliefs, actions, and products most central to local IYCF practices.

4.2 Data Analysis

Study data took three different forms: demographic and dietary data; narrative interview content; and cultural domain data collected through the listing, rating, and sorting exercises. Demographic and dietary data were analysed quantitatively, using Excel because the samples were small enough to permit efficient use of a spreadsheet. Thematic analysis of text, which included ethnographic and qualitative data analysis, was an iterative process, conducted both during and after the

data collection phase (Pelto 2013; Agar 1996). Atlas t.i. software was used to code and review this ethnographic narrative data. This analysis was conducted through iterative passes, following the usual procedures for grounded theory (Glaser 1992). Cultural domain analysis of free-listing and pile-sorting results was carried out by following the procedure described by Borgatti and Halgin (2012). The software package Anthropac 4.0 was used to analyse the pile-sort data (Borgatti 1992).

5. FINDINGS

We present the main study findings below, divided into three groups: Placing IYCF in the Context of the Social Constraints of Rural Households; Caregivers' Perceptions, Beliefs, and Motivations Relating to IYCF Practices; and Recurrent Themes in Caregivers' Strategies to

Maintain Infant and Young Child (IYC) Health, Growth, and Nutrition. Also included are excerpts from several interviews with caregivers to illustrate their perspective on these issues.

5.1 Placing IYCF in the Context of the Social Constraints of Rural Households

The household's social structure influences mothers' decisions about the care and health of their children.

While it is common to think of 'caregiver' as synonymous with 'mother', in Bangladesh caregivers are also frequently mothers-in-law or grandmothers-in-law. Because a new wife commonly moves after marriage to the village where her husband lives, usually into the same house as her husband's parents, a young mother may find herself consigned to routine housekeeping duties in her husband's family, while the 'hands-on' work of feeding and caring for children is assumed by her husband's mother or grandmother. It would be incorrect to characterise this as harmful in all cases; many inexperienced mothers welcome the assistance and guidance, and it also reflects the importance that children and child care are assigned in the culture. However, it is also clear that when public health messages (including HF advice) are targeted to mothers, other key decision-makers may be overlooked. To a lesser extent, this is true of male household members, too. Mothers who might choose to follow the advice of the *shastya shebikas* may be unable to do so when the household decision-makers have different ideas about nutrition, care, and household spending.

The highly gendered nature of public space constrains mothers' actions.

It is clear that in the study areas nearly all households depend on a wide array of purchased food items and consumer products (medicines, tonics) to support IYC diet and health. This means that they must rely on cash income in addition to home production. At the same time, male out-migration for work, to nearby urban centres or more distant locations, means that many households are operating without a male head-of-household. Cultural prohibitions on women (including married women) travelling unaccompanied outside the home means that they cannot go to market by themselves. Women thus face critical barriers to accessing products from the market, because male household members are often not present to do marketing on their behalf or to accompany them to the market. On one hand, this is a powerful argument for HF as a means to ensure that basic nutrients are accessible to infants and young children, because the *shastya shebika* brings it to the house. Nevertheless, HF still requires a vehicle for MNP, and the limitations on women's direct access to healthy ingredients may be a problem. Thus, MNP alone are not a solution, and the problem of access to nutritious local ingredients from the local market must also be addressed.

Grandmothers (especially mothers-in-law) play a significant role in IYC feeding, requiring the project to consider messages targeted specifically at this important constituency. One grandmother explained her role in caregiving and her relationship with the child's mother this way:

‘There were problems when she [the daughter-in-law] used to feed the baby, bathe her, or carry her. When she doesn't understand what to do, I am always there. While feeding her, she doesn't understand how much to feed. Sometimes the baby couldn't eat the pulse that her mother cooked because of its saltiness. I was the one who figured out the reason.’

Social pressure on mothers—from their families and from the community at large—affects IYC care in both good and bad ways. A consistent secondary theme in discussions with mothers was that the risk of being shamed by others (whether elders, neighbours, or family)

governs a good deal of their actions and decisions. This extends beyond constraints on movement and relates to issues of ‘agency’, including their own right to food and their responsibilities for ensuring that their children ‘look good’. It also relates to their responsibilities to protect their children, which is discussed below. The cultural pressures on women, as mothers, may have neutral or even benign effects (for instance, the cultural pressure to clean and clothe an infant or young child in a presentable way may be associated with better hygiene and ultimately less disease). But these pressures can also militate against actions that may benefit the child, as well as the mother. For example, a woman may know that she requires an adequate diet in order to breastfeed, but she nevertheless denies herself healthy foods for fear of being judged selfish. In the context of close-knit rural village societies, mothers do not always have the freedom to act fully on the advice that they are receiving from the *shastya shebikas* and other development agents.

5.2 Caregivers' Perceptions, Beliefs, and Motivations Relating to IYCF Practices

Mothers recognise that vitamins are an attribute of both healthy foods and MNP. Knowledge about the effects of individual vitamins is not widespread, but there is a general understanding that certain foods are healthier than others for children, and that this due in part to vitamins. Breastmilk, vegetables, and, to a lesser extent, fruits and animal products were the most frequently cited sources of vitamins. While MNP are not uppermost in the mind of caregivers as a source of vitamins, when they were asked about ways to add vitamins to the IYC diet, the majority of MNP users stated that vitamins were conveyed by *Pushtikona* (the locally available MNP). Furthermore, there appears to be an understanding among many mothers of the principal advantages of giving vitamins, including both health maintenance (expressed by respondents in phrases such as ‘keeps health’ or ‘increases health’) and improved physical and mental development.

As discussed below, there is a minority of caregivers who expressed scepticism about whether vitamins are needed. This minority view is important to acknowledge, since it indicates the need to stress in project communications the dual functions of MNP in health maintenance and in support for recovery from illness. It is possible that several years of community-level advocacy

by the BRAC-implemented A&T project, which stressed the nutritional sufficiency of breastmilk and advocated against the purchase of ‘outside foods’ in favour of home-prepared meals, has had the unintended effect on some caregivers of discouraging the purchase of MNP. These caregivers may have difficulty reconciling the message that a purchased product (MNP) is valuable for the maintenance of good nutrition, with the earlier messages discouraging purchase of ‘outside food’ products.

Anaemia is perceived mainly as a problem of adults, not of infants and young children. The importance of iron in the diet was recognised by the majority of caregivers, who generally identified green leafy vegetables as a source, but also noted its availability in tablet form. Although there is little recognition of the term ‘anaemia’, there is widespread understanding that iron is necessary for ‘the blood’, with the effects being described in terms of both blood quality (‘cleaning’ or ‘clearing’ the blood) and quantity (‘increasing’ or ‘making’ blood). Information about iron reaches caregivers not only through the *shastya shebika*, but also through government health centres and hospitals and from electronic media, where these are available. However, almost no caregivers cited MNP as a possible source of iron, nor did they describe anaemia as an IYC problem. Therefore, it will be necessary to

communicate with caregivers about both aspects (quality and quantity) of MNP to make it serve as a motivator for its use.

The interviews also suggest an important difference between findings on iron vs. those on vitamins: Iron (or lack of it) is discussed mainly in terms of its effects on adults, in terms of fatigue, but especially in relation to pregnancy and delivery, with many respondents recalling their experience with iron tablets prescribed by physicians or the maternal and child health clinic. With respect to other minerals, there was some recognition of iodine (as in iodised salt), but its importance for health and IYC development was not understood. Also, although MNP contains other minerals, their presence and function were not part of caregivers' 'knowledge maps'.

MNP are not strongly associated with medications—a welcome finding that supports promotion as a daily preventive. To examine how MNP are viewed in relation to other substances given to infants and young children, as well as to get a more comprehensive understanding of how caregivers organise and interpret the idea of 'foods for infants and young children', we conducted an analysis of the cultural domain: 'items offered to infants and young children'. This was performed with a cognitive mapping technique known as a 'pile-sorting exercise'. Caregivers were given pictures of the foods that are included in IYC diets, as well as pictures of medications, vitamin syrups, and MNP packets, and asked to put them into piles that 'belong together'. They were assured that there were no right or wrong answers, and that they could make as many different piles as they wanted. They were encouraged to talk about why they put items together. This technique has the advantage of not directing attention to any particular food or substance and provides an opportunity to see the relationships among substances from the caregivers' perspective, rather than imposing the researcher's ideas and categories. We were particularly interested to see whether MNP fell into the category of commercial medications—a result that would have complicated efforts to promote HF as a regular, preventive (as opposed to therapeutic) measure.

The pile-sorting results indicate that in both Sylhet and Borguna, MNP are seen as distinct from medications, a positive outcome from the standpoint of SBCC messaging. Interestingly, the substance with which MNP is most closely associated is breastmilk. Possible reasons for this association include a perception that they share health-giving qualities, and the fact that exclusive



Caregivers engaging in pile-sorting exercise

breastfeeding and (for older children) the use of MNP have both been promoted by the BRAC *Shastya Shebika*. In any case, the association suggests that MNP is understood to have special qualities that transcend the common food groups, which positions it well for SBCC that stresses daily use as a preventive.

Traditional beliefs remain an important influence on care behaviours. Despite caregivers' acceptance of the concepts of scientific medicine (especially germ theory), in their constant efforts to manage the threats to IYC health—a major source of anxiety—they also rely on two other explanatory frameworks. These frameworks are: 1) the world of supernatural threats, which result in the use of traditional (i.e. non-modern) preventive measures (e.g. amulets provided by Koranic healers) and 2) the humoral (hot/cold) system of foods and diseases, which requires continual attention to avoid imbalances and exposure to excess cold or heat.

The fundamental definition of child health among the study population is a child who is visibly free of obvious illness. This is not simply a truism; it reflects the

overwhelming concern about the many health hazards faced by infants and young children in the rural environment. Mothers and families constantly monitor changes in child health and behaviour and make use of all three of these systems to interpret causes of problems and to provide solutions. Contemporary biomedical ideas, promulgated through pathways like BRAC, are clearly fundamental in caregivers' views and behaviours. Caregivers are often very articulate in their descriptions and explanations about this part of their explanatory models of child care and illness prevention. At the same time, the two other systems of explanation—the traditional beliefs concerning supernatural forces and the classic humoral system—are also important interpretive touchstones that caregivers use to manage and prevent the ever-present threats to their infants and young children. Notably, mothers typically refer to these other, older systems when describing specific illness episodes in their own children, whereas modern theories and behaviours are often discussed in the abstract.

As part of the care routine, caregivers constantly monitor their infants and young children to maintain humoral (hot/cold) balance. As noted already, the humoral health/illness framework is a factor in most actions taken or considered by caregivers. Infants and young children are considered especially susceptible to hot/cold imbalances. Routines are adjusted to account for the broad pattern of heat in summer and cold in winter, but also for numerous short-term fluctuations due to changes in the environment, health status, consumption, etc. Parents protect against the extremes of temperature that would concern adherents of allopathic medicine, but they also guard against less obvious qualities of heat and cold inherent in certain foods or medicines (bananas, for instance, are a frequently cited example of a 'cold' food that should not be fed in winter or when the child is already in a cold state, but they are considered a good method of restoring balance to a child who is in a hot state). For MNP to be accepted in this population, it must avoid being associated too closely with either heat or cold, since this would inhibit its use in many situations. The oil commonly used on the head and body of infants and young children may provide a useful analogy for SBCC: The oil is used both in summer to prevent sweating and in winter to prevent the effects of cold. Both this protective effect and the apparent neutrality of oil on the hot/cold continuum could be a model for the properties of MNP.

HF actions are supported by both the cognitive and the behavioural elements of local food culture,

making HF a potentially effective way to complement the local diet. There is broad recognition among caregivers that infants and young children require a diet that differs from that of adults, and there is a reasonable consensus about which foods are appropriate for infants and young children. Thus, we can identify a group of 'IYC cultural core foods', foods that are considered basic and that are preferred for this age group. These foods include rice-based, semi-solid dishes that are prepared especially for children, e.g. *firni* and *shuji*. These are useful vehicles for HF. In addition to special foods for infants, caregivers have developed ways to modify family foods for consumption by infants and young children (for instance, by rinsing them of chili or by initially preparing ingredients in larger pieces so that the more highly spiced outside edges can be removed after cooking, before serving to the children). These ideas and practices are a sound basis for HF.

Because providing leftovers to infants and young children is not considered acceptable, caregivers have developed ways to reduce the risk of MNP wastage when a child suffers from poor appetite, including consuming uneaten portions of fortified food themselves.

'He doesn't want to eat. Rather than wasting it, I eat that myself. Not because I will get nutrition. I don't like to waste the rice. If I throw the rice away, there will be problems. So what is the reason to throw it? So I eat that myself. I have heard, what the mother eats, goes into the baby's body. If I eat the rest [of the] *Pushtikona* mixed with rice, then he might get that as well from my breastmilk.'

Another solution adopted is to portion out a single sachet of MNP over several feeds.

'The children eat little bits of food at one time. They can't eat much at once. They eat little bits but they eat frequently. So I think it is better not mix the whole amount of powder with foods at one time. I would suggest mixing it with foods like a pinch of salt whenever the child will eat. My daughter had food three times, I mixed one packet three times and that's how I finished one packet in one day.'

Adequate utilisation of MNP is a challenge for caregivers. Caregivers are aware that MNP can be given at the time complementary foods are introduced, and they typically mix MNP into the complementary foods of infants who have had them added to their diets. However,

caregivers may delay introducing MNP until they feel that the infant is eating enough to justify adding the packet. At that stage, and later, a rice-based preparation was nearly always the carrier. Although most users reported giving their infants and young children one packet of MNP a day, the typical pattern was to put part of the packet into the food and reserve the rest of it for later feedings. Even with this modification, it is probable that these children do not routinely receive the recommended MNP dose because of an essential feature of complementary feeding among this study population, namely, that caregivers do not feed leftovers to their children once the food has been placed in the child's bowl. Thus, any unconsumed food containing MNP will not be saved and fed to the child later.

There was an indication in some of the caregivers' narratives that they engage in forceful feeding if a child does not want to consume a full portion of the food that the MNP has been added to. The practice of forceful feeding has been a subject of concern, and other interventions in Bangladesh have been directed to improving responsive feeding. Thus, messages to promote MNP need to be carefully crafted so that they do not undermine the progress that has been made in supporting responsive feeding, in which the child is not

forced to consume everything the caregiver has determined she should. The responsive feeding intervention programs may have materials that will be useful in the promotion of MNP.

The results of the study suggest that caregivers are often not clear about the recommended schedule of MNP use over the course of time. It is important to recognise that the message on the recommended frequency of use for the product has changed over the past few years and that caregivers may have received different recommendations. During the initial phase of the program, *shastya shebikas* were recommending consumption of 60 sachets over 6 months and were later asked to ensure that caregivers adopting MNP supplement their child daily for 2 months, followed by a period of 4 months of no use. Under the second phase of the HF program, this message has been revised to be in line with World Health Organisation (WHO) guidelines of 60 sachets over 6 months. Some households reached under Phase 1 remain aware of the need to halt the use of MNP for 2 months; however, they appear uncertain as to exactly when this interruption should commence and how long it should be observed before use is resumed (the 'start-halt-restart' process).

5.3 Recurrent Themes in Caregivers' Strategies to Maintain IYC Health, Growth, and Nutrition

Prevention is a central feature of both the modern and the traditional illness frameworks; this can be harnessed for HF messages. Mothers take numerous actions consistent with modern germ theory to reduce the chances of illness in infants and young children (e.g. cleanliness is a constant theme in caregiver narratives, and caregivers can readily discuss the importance of a vitamin-rich diet). But prevention is also a feature of the two other systems. Operating within the humoral system, mothers offer or withhold particular foods in order to maintain a hot/cold balance in their children. Bathing practices are different in summer and winter seasons (bath water is heated in winter) to avoid disturbing this balance and precipitating illness. To prevent the effects of supernatural diseases, mothers and families enlist the help of healers who offer a range of amulets and talismans intended to ward off the effects of bad spirits or bad intent. Mothers also take numerous precautions to avoid exposure of their own body to 'bad' or 'evil' air, for fear of passing the effects to children through contaminated breastmilk. The consistency of this preventive thread,

which runs through all three explanatory frameworks, means that messages stressing the preventive powers of MNP stand a good chance of being understood.

IYC appetite is a central concern for caregivers, who monitor changes in consumption closely, as these remarks from different mothers illustrate:

'[It] is very difficult to feed him because he has lost appetite for food. Always we feed him forcefully. In spite of difficulties we try to feed him...It takes long time. He needs to be fed a little amount of rice for a long time while he continues crying. It is hard to feed him. Yes, feeding is the main problem'.

'I have noticed that my child's movement and appetite for food is not good. I am getting upset since two days that he is not eating properly since his illness. He always calls his uncle...When he is well he eats food willingly, and calls his uncle. As he is ill now he is not eating properly and becomes silent'.

Concerns about IYC appetite are nearly universal and provide an effective motivator for IYCF and HF messaging. The process evaluation survey by IFPRI showed that one of the main reasons caregivers give MNP is that they believe that it improves appetite. One possible interpretation of this finding, however, is that respondents were simply reflecting what BRAC workers had told them. The FES reveals that this is not the case, and that concerns about child appetite are deep and genuinely felt. Mothers are constantly monitoring their children to assess their appetite. Good appetite is a sign of health and any reduction in appetite is interpreted as a first sign of trouble. Even before other signs of illness, changes in appetite are worrisome and recovery from poor appetite is a welcome indication that a child is improving.

When appetite is poor, caregivers are not passive. They seek solutions, and in this search they may turn to any of the explanations for poor appetite that are available to them within their complex culture. Appetite and gastric problems may be attributed to supernatural causes, in which case supernatural solutions are required. For example, spoiled breastmilk from ‘evil eye’, which is one perceived cause of appetite loss, calls for a treatment carried out by *kobiraj* (local healers), which can take several days to purge the ‘spoiled’ breastmilk. Families may seek help from doctors or chemists to get ‘vitamin syrups’. The lengths to which parents are prepared to go to address the problem speaks to the centrality of appetite as an indication of child health.

Even in the absence of illness, mothers worry about whether their child’s appetite is adequate. Problems of appetite engage caregivers in a great deal of difficult feeding negotiations, which, apart from the emotional toll of discouragement and frustration, can be very time consuming, sometimes taking hours.

There is a striking consistency in the caregiving routines for infants and young children that offers a place to situate IYCF and HF. Caregivers described remarkably similar sequences of caregiving actions for their children. It is possible that the uniformity of response, which was particularly evident in Sylhet, stems partly from seasonal factors: Interviews there were conducted in winter, when families were undertaking specific actions (wrapping child, keeping child in lap) to avoid exposure to cold. It is also possible that the messages delivered by the BRAC *shastya shebika* have been slightly different in the two districts (mothers in Sylhet, for instance, made

frequent reference to ‘the rules’, which could refer to prescribed actions advocated by the *shastya shebika*). Whatever the reason, there is a surprisingly uniform pattern of sequenced actions: waking and breastfeeding → returning to sleep → rising and washing child’s face → oiling the child’s head and body → dressing the child → feeding the morning meal → washing clothes or bedding soiled in the night → walking the child → keeping the child in the lap to avoid dirt....and so on. With many respondents describing almost exactly the same steps in the same order, it would appear that these ‘rules’ of good care are widely adhered to. The promotion of MNP stands the greatest chance of success if it can be integrated into this routine by mothers, so that mixing MNP becomes one more ‘rule’ to be observed.

Caregivers’ concepts and vocabularies of growth and development can be used to maximise the impact of HF messaging. Caregivers closely observe the development of their children in terms of both their mental and their physical progress. The concept of ‘growth’ hinges not simply on changes in stature, but on a variety of developmental indicators, including levels of autonomy, physical strength, and changes in specific parts of the child’s body,

Traditional beliefs co-exist with the modern nutrition and health education messages delivered to families by *shastya shebikas*. Caregivers address loss of IYC appetite with modern medicines (frequently vitamin syrups) or even with MNP. However, they also relate loss of appetite to supernatural threats, such as ‘bad air’ or ‘evil eye’, which are thought to affect children both directly and indirectly, through hazards experienced by the mother.

‘I saw that my milk was there, but the baby was not taking it. So that made me wonder: why was not he taking it? Also, even if he took it, he might have a loose motion. Then I asked myself why he was having that? Then my husband took advice from an *Ojha* and came back with holy water, saying that if I washed off my breasts with that water, going far from the house to a tree and not looking back, then I would be cured. And I did accordingly. He had also given us rose water to drink for the baby and me. We drank and did accordingly and by God’s grace I was cured. I had to go to that tree and say that “take your bad milk and give me back my good milk” and then throw some of my milk by expressing my breasts in front of the tree. Then I came back home without looking back, [I] took shower, and after a while I could feed the baby’.

such as facial structure. Parents track the mental development of their children along several dimensions, including style of play, responsiveness to instructions and requests, pre-verbal communication and early language development, and recall of people and objects. An important aspect of mental development is how children interact in social contexts. Markers of intellectual development are not assessed in the abstract, but in the context of the family, where children are interacting with adults and siblings in social space. These interactions were described in rich detail by the interviewees in the study. This descriptive content, with its social detail, can be used in the development of resonant scenarios for conveying key IYCF and HF messages.

Similarly, narrative content from the interviews has furnished a local vocabulary for developmental changes that could be explored further for its utility in messaging. For instance, in the Borguna site, two styles of child growth were recognised, referred to as *aus* and *aman*, corresponding to two seasons in the agricultural calendar: a short season of rapid growth and a longer season of steady, slower growth.

5.4 Limitations of the Study

There were two principal limitations to the study. The first of these concerns the composition of the sample. Although the study team attempted in both sites to recruit informants from across the full SES spectrum, it appears that the Borguna team was more successful than the Sylhet team in reaching poorer households. To some extent the differences in the SES characteristics between the sites reflects recognised differences in SES between Barisal Division and Sylhet Division, where the studies were conducted. However, it is also likely that the addition of a second *upazilla* in the Borguna sample—selected purposively for its greater remove from the district headquarters—makes the Borguna data more representative of the district as a whole than those collected in Sylhet. For this reason, as well as for reasons to do with the differential application of the interview protocols by the different local teams, one needs to be cautious in making comparisons. We have attempted to work within these limitations by confining the discussion of results to those that apply to both sites, or by noting explicitly when they apply to one site alone.

Among Barguna families, it was common to compare child growth to the contrasting patterns of rice crop maturation associated with two distinct planting seasons: one long and one shorter and more intense. The study found no consensus among caregivers as to which type of growth was preferable, but it is worth noting that among those who valued slower growth, this was partly due to an association with strength:

‘Sometimes some children have their teeth at the age of 6 months. That means that they are “aus”. “Aus” means “the paddy that ripens fast”. “Aman” refers to “the paddy that ripens slowly”. It comes at the end of the year. Now is the time to grow “aus” and it will ripen sooner, while “aman” will come at the end of the year. Yes. Therefore, the child who has got his teeth at the age of 1 year – he is called “aman”. “Aman” is better. If he has his teeth at the age of 1, then he will have strong teeth. But if his teeth grow at 6 months, then they won’t be that strong and he will eventually lose them after 6 months. That is why “aman” is better’.

A second limitation relates to the conditions under which the interview data were collected. In both sites, interviewers were introduced to the respondents (caregivers) by the *shastya shebika*. Although the interview teams tried to make clear to both the *shastya shebika* and the local BRAC project staff that, following this introduction, the caregiver was to be interviewed alone, it was not always possible to achieve this isolation. *Shastya shebikas*, either out of curiosity or out of a sense of duty and protectiveness, were frequently unwilling to absent themselves. It is difficult to know exactly how this may have biased results, but it is likely that in some cases the presence of the *shastya shebika* may have discouraged respondents from talking as freely about traditional beliefs and practices as they might otherwise have done, and it may have prevented them from fully volunteering any misgivings they may have had about MNP, as the *shastya shebika* is the main provider of the product.

6. RECOMMENDATIONS FOR SBCC STRATEGY AND PROGRAM IMPLEMENTATION

6.1 Build on the Themes That Are Key to Caregivers: Illness Prevention and Appetite

- Given the amount of time, resources, and emotional energy currently being invested by caregivers in preventing illness in infants and young children, efforts to promote IYCF and HF, while continuing to emphasise positive outcomes, such as intelligence, should also stress the reduction of negative outcomes, such as child illness.
- The potential of MNP to improve IYC appetite can be a major element of the SBCC strategy. This stems from appetite's strategic position at the intersection of the three major explanatory frameworks for illness (humoral, supernatural, and modern). Caregivers are highly sensitive to changes in the gastric health of their children because they are fraught with meaning; caregivers are apt to welcome a solution to these problems. There is also a highly practical appeal to be made here: A reduction in the time demands of feeding children who have poor appetite is likely to be very attractive to caregivers, whose preoccupation with this problem is very evident.
- For a sub-group of caregivers, vitamins and iron are generally associated with treatment rather than with prevention (vitamins as a prescription for poor appetite in children, iron as a treatment for anaemic mothers). To increase the home use of MNP, their preventive properties need greater emphasis. Caregivers already understand the concept of prevention and it has a prominent place in their actions, but the preventive use of MNP, not just for iron deficiency as stressed in program training materials, but also to help children in resisting the negative consequences of illness and to support a return to better appetite during recovery, should be explicitly reinforced.

6.2 Place IYCF and HF within the Existing Routines of Rural Households

- The caregiver routines described by respondents in Sylhet are highly uniform. For optimum IYCF practices with HF to be more widely adopted, they should be integrated into the common sequence of daily measures taken by caregivers for their children. The SBCC strategy could build on this, particularly in the portrayal of child feeding with MNP. Adequate preparation of local, home-made complementary foods with MNP could depict adopters as highly

conscientious caregivers taking all the necessary steps to maximise the health of their children. IYCF with HF thus becomes an additional step that concerned caregivers should take. Showing MNP adopters in the context of these other steps (washing, breastfeeding, changing the child's clothes, keeping them away from cold, etc.) is likely to resonate with families that are already trying to follow these 'rules'.

- Since it is routine in many households for IYCF to be undertaken not just by mothers but by grandmothers and mothers-in-law, they should all be depicted as part of the SBCC strategy, as they are decisive voices in the decision-making process related to child feeding and particularly for the decision to purchase MNP. They must also be considered as an important component of the *shastya shebika*'s target audience, which requires the program to grapple with how best to reach grandmothers and mothers-in-law in an efficient manner. This has been achieved in other countries by seeking to address elders in locations where they congregate regularly (e.g. burial societies, savings groups, church or mosque).

6.3 Position MNP as a Neutral Substance within the Humoral System of Food and Illness

- Since most foods are believed to have a defined effect on the hot/cold balance of infants and young children, it is important that MNP are not interpreted as bringing either too much heat or too much cold to the body of children that consume it, as this could lead to discontinuing use in moments of sickness or other humoral imbalance. At present, there is no cultural consensus as to the hot/cold qualities of MNP, which is an advantage. SBCC should probably avoid promoting MNP with claims of increased 'energy' or other terms that could call to mind excessive heat. The optimal positioning would be as a 'helper' substance that augments and celebrates the foods that caregivers already provide to their children. Individual foods are offered or denied, depending on the humoral state of the child, and MNP could be likened to a catalyst—one that helps these foods do their job of bringing the body back into humoral balance. The oil that caregivers apply to the heads and bodies of their children appears to be one of the few substances that is used routinely in both hot and cold seasons, and associating MNP with this other, neutral substance may be a way to reinforce the idea that MNP has no effect on humoral balance.

6.4 Explore the Use of Key Terms and Concepts from Caregiver Narratives

- The narrative content collected from respondents during the course of the study reveals a number of concepts that, with further exploration, may prove useful in fleshing out scenarios for promoting IYCF through SBCC. Two insights in particular presented in the discussion of health, growth, and development above are worth investigating further.
 - **The rice paddy analogy** in which different styles of child growth and development are named after the short and long rains (*aus* and *aman*): If it proves to be the case that child growth is widely discussed in the language of crop maturation, this analogy could conceivably be useful to the SBCC strategy.

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- **The importance of monitoring the child's development through social interaction** as opposed to abstract milestones: Understanding and responding verbally or non-verbally to relatives (particularly male relatives like fathers or uncles) defines the child as a social being. Caregivers watch for this in their children, and depicting this as a marker of development in the scenarios developed by the SBCC team could provide a valuable link to local concerns, helping these scenarios resonate.

6.5 Address the Major Social and Programmatic Impediments to Uptake and Adherence

- Some caregivers within our sample reported that they had discontinued MNP because of a change in the child's stool. The co-occurrence of initiating MNP use and a subsequent episode of diarrhoea is viewed as a causal relationship. Caregivers blame the diarrhoea on MNP, even though there may be no causal relationship. To the extent that this reflects a more widespread experience (i.e. within the broader HF program implementation area), adherence is likely to be improved where HF messaging and programming are linked effectively to water, sanitation, and hygiene messaging and programming. Reducing diarrhoea by improved hygiene will reduce the likelihood of this co-occurrence. MNP messaging should support hand-washing of children and caregivers before use.
- While the SBCC strategy may make important inroads by using some of the recommendations listed here, HF will never be widely adopted as long as the instructions concerning the use regime are not well understood. For the participants in this study, the 'start-halt-restart' recommendation has not been consistently internalised (if indeed it has been consistently conveyed). Efforts either to simplify the guidance or to strengthen the messaging (or both) would appear to be a prerequisite for greater adherence.
- The social constraints on women's movement and agency were a persistent theme emerging from our interviews. We have already noted the importance of making allies of mothers-in-law, grandmothers, and decision-making male members of the household, who determine much of what is possible for mothers of infants and young children. IYCF messaging also needs to be tied to the task of opening room for mothers to manoeuvre. Messages directed to fathers, elders, and the community at large that reinforce the importance of maternal diet as a direct influence on birth outcomes and IYC health in the first 1,000 days may help legitimise mothers' own self-care efforts and reduce their vulnerability to social pressures to deny themselves.

7. BIBLIOGRAPHY

- Aboud F, Akhter S. 2011. A cluster-randomized evaluation of a responsive stimulation and feeding intervention in Bangladesh. *Pediatrics* 127: e1191.
- Affleck W, Pelto G. 2012. Caregivers' responses to an intervention to improve young child feeding behaviors in rural Bangladesh: a mixed method study of the facilitators and barriers to change. *Social Science & Medicine* 75: 651–658.
- Agar, M. 1996. *The Professional Stranger: An Informal Introduction to Ethnography*. San Diego, CA: Academic Press.
- Avula R, Menon P, Saha KK, Bhuiyan MI, et al. 2013. Critical Steps in the Implementation and Utilization of a Behavior Change Communication Intervention Promoting Infant and Child Feeding Practices in Bangladesh. *J. Nutr.* 143 (12)2029–2037.
- Bernard RH. 2006. *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Lanham, Maryland: Altamira Press.
- Black RE, Victora CG, Walker SP, Bhutta ZA, et al. 2013. Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet* 382(9890), 427–451.
- Borgatti SP. 1992. *Anthropac 4.0*. Columbia, South Carolina: Analytic Technologies.
- Borgatti SP, Halgin DS. 2012. Elicitation techniques for cultural domain analysis. In: Schensul JJ, LeCompte MD, eds. *Specialized Ethnographic Methods: A Mixed Methods Approach*. Lanham, Maryland: Altamira Press. pp. 80–116.
- Bureau of Statistics. 2010. *Report of the Household Income and Expenditure Survey*. Dhaka: Bangladesh Ministry of Planning.
- FAO. 2012. *The State of Food Insecurity in the World 2012: Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition*. Rome: FAO.
- Garro LC. 2000. Cultural Meaning, Explanations of Illness, and the Development of Comparative Frameworks. *Ethnology* 39:305–34.
- Glaser BG. 1992. *Emergence vs. Forcing: Basics of grounded theory analysis*. New York, NY: Sociology Press.
- Headland T. 1990. Introduction: A Dialogue Between Kenneth Pike and Marvin Harris on Emics and Etics. In *Emics and Etics: The Insider/Outsider Debate*. Headland T, Pike K, Harris M, eds. pp. 13–27. Newbury Park, California: Sage.
- icddr,b, UNICEF/Bangladesh, GAIN, and Institute of Public Health and Nutrition. 2013. *National Micronutrients Survey 2011–2012 Report*. Dhaka.
- IFPRI. 2010. *Evaluation of Alive and Thrive and Evaluation of GAIN Home Fortification Project*, Unpublished study.

IFPRI. 2013a. Analysis of 2013 MNP Uptake Survey. Unpublished summary of survey findings.

IFPRI. 2013b. Using BRAC's Community Health Volunteer Network to Scale up Sale of Multiple Micronutrient Powders in Bangladesh: Results of an Uptake Survey conducted June-July 2012. Unpublished study.

IFPRI 2013c. BRAC's *Pushtikona* program: insights from process evaluation surveys and rapid qualitative assessment 2013. A presentation by IFPRI MLE Team at BRAC-GAIN-IFPRI meeting, Dhaka, November 14, 2013.

Kleinman A. 1988. *The Illness Narratives*. New York, NY: Basic Books.

Kleinman A. 1980. *Patients and healers in the context of culture: an exploration of the borderland between anthropology, medicine, and psychiatry*. Berkeley, California: University of California Press.

Menon P. 2012. Childhood Undernutrition in South Asia: Perspectives from the Field of Nutrition. *CESifo Economic Studies* 58:274–95.

MRC-MODE Limited. 2011. Final report on formative research to understand knowledge, attitude, and practice about vitamin A supplementation, fortified oil, multiple micronutrient powder, and iron deficiency across different participant groups. Unpublished report.

NIPORT. 2013. *Bangladesh Demographic and Health Survey 2011*. Dhaka and Calverton, Maryland: Mitra and Associates and ICF International.

Pelto PJ. 2013. *Applied Ethnography: Guidelines for Field Research*. Walnut Creek, California: Left Coast Press.

Pelto GH, Armar-Klemesu M, Siekmann J, Schofield D. 2013. The focused ethnographic study 'assessing the behavioral and local market environment for improving the diets of young children 6 to 23 months old' and its use in three countries. *Maternal and Child Nutrition* 9 (suppl 1):35–46.

Pelto PJ, Pelto GH. 1997. Studying knowledge, culture and behaviour in applied medical anthropology. *Medical Anthropology Quarterly* Vol. 11 (2). pp. 147–63.

Saha K, Rawat R, Khaled A, Sanghvi T, et al. 2013. Behavior change counseling by frontline health workers and a mass media campaign improved complementary feeding practices more than mass media alone in rural Bangladesh. *FASEB J* 27:243.5.

Thuita FM, Pelto GH. 2014. *Infant and Young Child Feeding Behaviors, Beliefs, Contexts and Environments in Isiolo, Marsabit and Turkana Counties – Kenya: Report on the Focused Ethnographic Studies in the REGAL-IR ('Resilience and Economic Growth in the Arid Lands – Improving Resilience') Program Area*. Unpublished study.

Zongrone A, Bhuiyan M, Singh K, Roopnaraine T, et al. 2013. An ethnographic tool provides insights into socially normative infant and young child feeding practices in the context of a behavior change communications intervention in rural Bangladesh *FASEB J* 27:243.4.

ABOUT GAIN

GAIN is an international organisation that was launched at the United Nations in 2002 to tackle the human suffering caused by malnutrition.

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